



Symbiosis[©]

The newsletter of the Prairie States Mushroom Club

Volume 25:4

November/December 2008 <http://www.geocities.com/iowamushroom>

Thoughts on Mushrooms in China

by Don Huffman



Don Huffman at Central College in 1988

I was initially a Visiting Scholar at Zhejiang University in the Biology Department. I taught a mycology course with heavy emphasis on cellular and molecular concepts [They requested and insisted on that] and we also collected mushrooms, learned beginning identification concepts and had a laboratory each week where we isolated and cultured some fungi, etc.

Yes, I hunted wild mushrooms in China. Much of the native forest habitat was badly damaged or ruined during the latter part of Mao's time—largely for firewood and clearance for crop plants. My best collecting area of the many places I could reach by bicycle was a Botanical Garden near Zhejiang University where they had succeeded in keeping most of the tree stands as a cultural area. It was only 3 blocks from campus, and easily accessible. I finally became so well known to the caretakers that they stopped charging me the usual 2 yuan for entry (about 25 cents) and I shared some fungal look/see moments with some of them. My second and subsequent years I was Visiting Scholar in the English Dept., but kept up my work with biologists, and did some single spore isolation and genetic crosses from sources of *Lentinus edodes* that I got from the markets. The biologists there had wanted to look at the medicinal properties of *L. edodes*, but unfortunately there was a change in departmental chairman, and I think they finally let all the cultures die out.



Basket of *Lentinus edodes*

I was, and still am, amazed by how much scientific work the Chinese were able to get done by working unofficially and undercover while that sort of thing was strictly banned in Mao's China. I think there is more research now on natural occurring mushrooms both by Chinese and by visiting mycologists from around the world who are working there.

My wife and I have been in China more than 20 times, and each time I'm there I contact my old biology buddies and look at fungi in season. Unfortunately, most of my time has necessarily been spent on editing and writing for English

(cont. on pg. 9)

Mushrooms in China, An Expanded Edition of *Symbiosis*[©]

To All PSMC Members,

I hope you enjoy reading this special edition of "Symbiosis" that is devoted to mushrooms in China. I certainly enjoyed putting it together. It has heightened the excitement as I plan my January trip to China. I am visiting PSMC Member, Sally Myers who is currently working there.

Once again I invite PSMC members to submit any interesting mushroom information or mushrooming experiences they'd like to share in "Symbiosis". Our Spring issues will focus on Morels. I'm sure many of you have interesting Morel hunting stories we'd love to hear. Please consider sharing them.

Thanks,
Dave Layton, PSMC President

In this issue:

Thoughts on Mushrooms...	Cover
Excerpts...	Pg. 2
Learning About People...	Pg. 3
Fungal Exudations...	Pg. 5
Mushroom Productions...	Pg. 6
Pot Hunter's Corner	Pg. 7
Annual Meeting Minutes	Pg. 8
Favorite Chinese...	Pg. 9
Final 2008 Foray Report	Pg. 10

Excerpts from “Edible and Medicinal Mushrooms of China”,

Huffman, Fan Li Mei, and Liu Xiao Ting. *McIlvainea* v.12, No.2, 2004, pp..

Use of fungi as food and medicine in China can be traced back more than 7000 years to the Yangshao times of the New Stone Age, well before China’s political organization. Little distinction was made between nutritional and medicinal uses of fungi in ancient China, and in fact that is still the case.

Chinese markets, unlike those in some other countries, tend to be relatively small, dispersed widely within metropolitan areas, typically lining the sides of alleys or small streets, and extending from about 100 to 500 meters long. The average market had 4 or 5 mushroom stalls, each typically displaying 3 to 5 species on any given day. Mushrooms are either brought to market and sold by the farmers who produced them, or transported by grower associations from production areas to an offloading spot where vendors from the markets purchase mushrooms from trucks, transport them by carts or other vehicles – usually in large baskets or boxes - and display them for sale.

Mushrooms and other natural medicines in China have a long tradition which predates Western medicine by several centuries. Chinese physicians are fully comfortable with Western medicine but are equally at home with classical natural medicine. For example: a Chinese patient found to be suffering from severe tracheitis might, after appropriate clinical tests, be given the most effective antibiotic against acute infection by a specific pathogen; but for chronic symptoms, the physician would probably also recommend the use of *Tremella fuciformis* as part of

daily food intake. Chinese physicians are convinced of the superiority of a combination of both traditional and western medicines over the use of either alone. In practice the use of medicinal mushrooms is quite complex. Some medicinal mushrooms may be used concurrently with western medicines, some may not, and yet others are recommended only in specific combinations with one another. Medicinal mushrooms remain an important part of Chinese natural medicine. Chinese physicians often use Western medicine for acute illnesses and natural medicines (including mushrooms) for chronic illnesses.

Mycological studies are presently focused on research related mainly to commercial production rather than to taxonomic or ecological studies.

Summary

China’s interest in edible and medicinal fungi is longstanding. While commercial mushroom production is limited to a handful of select mushroom species, these are produced in large quantities and reach the markets of literally every city – and probably every kitchen – in east-central China. Chinese meals are incomplete without at least one mushroom dish, and it is not unusual to be served 2 or 3 species at a given meal. (The meals we were served in homes usually had 10-12 courses, and it was common to have 3 mushroom courses!) 



Mushrooms in a Chinese market 1995

Large bags clockwise from left: *Grifola frondosa*, *Lentinus edodes* (2 bags) *Auricularia auricula*, *Poria Cocos*?

Learning About People and Fungi in China

by Sally Myers



Teda city skyline from school

Editor's Note: *PSMC member, Sally Myers, is currently the school librarian at Teda International School near Tianjin. She set out to learn about how her Urban Chinese acquaintances viewed fungi. Also her narrative and photos of a trip to a village that is less than 2 hours from Beijing is quite eye opening. She may as well have traveled to a different world. Notice how some families still heat and cook in their ancient homes – D.L.*



Story-time with Sally

to a middle school in Ji Xian, a “village” about two hours north in Tianjin principality. It was my first real chance to go out in the countryside. Teachers from the school sponsor a student, and send small gifts of school supplies. Not many teachers went, but we carried gifts from many. This was the first year home visits were arranged.

I felt so lucky to visit three student homes. Obviously, these homes are very old (and I think they chose the poorest ones). Through the stream of Chinese, I could hear the word kang (encountered in historical novels of China). It is a heated brick bed that stretches across the whole side of a room (at least the ones we saw). The hearth for it is on the other side of a wall. In the first home we visited, the stove was only one square (smaller

One weekend I went with some teachers from the school and some others from the charity association

than the one below), with the round “bowl” covered by the lid which all sits on top of the oven underneath. Then the heat goes through to the other side of the wall, under the bed. On top of the bricks, there was a reed mat. Although you see a quilt in this kang picture, I saw no mattress on top of the bricks. The head of the trip said that particular family did all their washing and cooking in that one bowl, and that they used cornstalks for fuel.



Cooking and heating hearth



Kang (heated bed)



Harvested corn drying in the courtyard

The students and visitors all went to a restaurant in another part of the town, which is supposedly a tourist locale for people from Tianjin. It is located in a small mountain range. They kept bringing out dish after dish. There was a huge washtub like bowl of rice for everyone to go help themselves. Behind the restaurant, I finally figured out what the little orange things were on the trees. NOT decorations for Halloween! It was the leftover persimmons.



Persimmon trees



Mostly treeless hillside

(cont. on pg. 4)

Learning About People...

(cont. from pg. 3)

Our day with the students in Ji Xian ended with a trip to the market for the local specialty, walnuts. I wanted to buy some of everything! You can scarcely imagine the bags and bags of walnuts, and many other nuts, chestnuts roasting. Huiying, one of the Chinese teachers from our school, is holding up a string of dried mushrooms.

Fungi at a Village Market



Front: Dried Shiitake, Pleurotis?
Back: *Auricularia auricula*



Huiying holding Shiitake string

*The following are excerpts from interviews with 3 of Sally's Chinese coworkers including Huiying (pictured on left). My guess from the description of how black and white fungus are used is that black is *Auricularia auricula* and white is *Tremella fuciformis* – Ed.*

I asked Huiying how she would cook with the mushrooms she was holding in the photo.

Oh, I gave those to a friend. I don't cook much. I always cook with fresh mushrooms; I know four kinds. I use them in hot pot, stir-fry, or noodles. Hot pot is my favorite, and it is very easy. In Tianjin there is a local specialty that is very popular: *dǐ lóu miàn* (no meat) and *zá jiàng miàn* (with meat). Chop the mushrooms very, very small, and put with meat and other vegetables in a kind of sauce. The noodles are cooked just in water, plain, then put the sauce on top of the noodles in the individual bowl. I think all the local families make this dish.

Here is the reply from another Coworker I asked about how Chinese use mushrooms.

“We have only one word for mushrooms, and it is translated more as fungus, not mushroom. We have the black fungus and the white fungus, and both can be used for either hot or cold dishes. It doesn't matter if they are dried or fresh, and we can get them all year round. One very popular dish in China uses the small black ones (her words): cut them in strips and cook with chicken, pepper and carrot strips. Sometimes we use all the different mushrooms together to make soup. The white fungus is used to make a sweet dish: cook lotus seed, white dried fungus and sugar. It is something the consistency of porridge.”

At this point, another coworker came into the library. Coworker 1 said I should ask her, because she is a better cook. So we asked her about cooking with mushrooms. “No, I don't [cook with them] very much, but I know I should because it is good for health.” At this point my other coworker said, “We have a saying (in regards to eating): “Two legs are better than 4, one leg is better than two, and no leg is better than one.” This is a new saying, not some ancient idiom. The four legs of course are meat, and they do have beef, pork, mutton; two legs for chicken, one leg for fish, and no legs for mushrooms (or I suppose any other vegetable). 

The following photos are from our local Chinese supermarket.



Fresh Mushrooms at least 8 varieties



Dried Mushrooms

Fungal Exudations, Transcendence, and Immortality

Submitted by Dean Abel

To Live as Long as Heaven and Earth. A Translation and Study of Ge Hong's Traditions of Divine Transcendents by Robert Ford Campany, University of California Press, 2002

Information in part from the University of California Press <www.ucpress.edu/books/pages/9471.html#copy>

In late classical and early medieval China, ascetics strove to become transcendent - deathless beings with supernormal powers. Practitioners developed dietetic, alchemical, meditative, gymnastic, sexual, and medicinal disciplines (some of which are still practiced today) to perfect themselves and thus transcend death. Narratives of their achievements circulated widely. Ge Hong collected and preserved many of their stories in his *Traditions of Divine Transcendents*, affording us a window onto this extraordinary response to human mortality.

This volume is a fourth-century Chinese hagiography (stories of

Daoist saints) written by the aristocratic scholar-official and religious practitioner Ge Hong (283-343). He collected stories of those transformed persons (transcendents) who have ascended to an exalted status in the chain of being. Such persons, by dint of effort, might stave off death indefinitely and, as the texts put it, achieve “long life” or “come to an end only when heaven and earth do.”

Robert Ford Campany's groundbreaking and carefully researched text offers the first complete, critical translation and commentary for this important Chinese religious work, at the same time establishing a method for reconstructing lost texts from medieval China. Clear, exacting, and annotated, the translation comprises over a hundred lively, engaging narratives of individuals deemed to have fought death and won.

Additionally, *To Live as Long as Heaven and Earth* systematically introduces the Chinese quest for transcendence, illuminating a poorly understood tradition that was an important source of Daoist religion and a major social, cultural, and religious phenomenon in its own right.

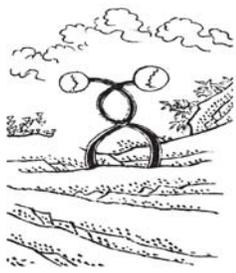
Ge Hong's discussion of dietary rules that promote longevity and even immortality describes the exudations or emanations (*zhi*) of fungi that “may resemble palaces and chambers, carriages and horses, dragons and tigers, humans, or flying birds”; if ingested, they enable one to ascend as a transcendent. [p27]

Pine resin, after falling to the ground and remaining there for a thousand years, is supposed to transform into *fuling* fungus. The story of master Huang Chuping

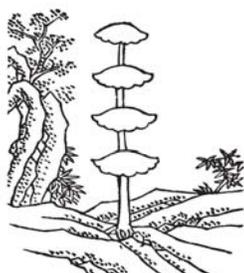
relates how he and his brother ate pine resin and *fuling* fungus. When they had done this for five thousand days, they acquired the power to disappear at will; they cast no shadows in sunlight and they had the complexions of youths. [p309]

The master Kong Yuanfang habitually ingested pine resin, *fuling* fungus, pine nuts, and other medicinals. Already old, he reverted to youth. He wore coarse clothing and kept a vegetarian diet. When he drank liquor, he did not exceed a *sheng*'s worth. He reached an age of over one hundred seventy. [p314]

Below is illustrated the anomalousness of “excrescences” from *Taishang lingbao zhicao pin* in the Daoist Canon [the descriptive word “spirit” indicates a mushroom of great size]. 



芝火
Fire Fungus



芝山紫
Purple Mountain Fungus



芝精木
Wood Spirit Fungus



芝精赤
Red Spirit Fungus

Mushroom Production in PanAn China, A Brief Pictorial Overview

By Don Huffman



Mushroom growing houses on a mushroom farm

The growing houses are all constructed of rice straw mats about 4x4 ft. They put up bamboo corner and wall stakes, and a few other other supporting interior stakes, then they string wires criss-crossing to support the roof mats. The sides are made of the same size straw mats vertically placed and tied to stakes and wires. The overall size of these houses varied but probably averaged 50-70 meters on a side, with the side walls only about a single mat high.

The “sawdust logs” which have been packed, are steam sterilized and inoculated with sterile grain-grown mycelium, under sanitary conditions.



Sterilizing jars to grow mycelium

When *Lentinus* (or other species) mycelium have reached about 3 wks growth prior to placement in the growing houses the logs are taken to the growth houses.

Upright inoculated “logs” are placed in rows and supported on wires for the length of the house, and the bottom of the log rests in a shallow ditch which is kept supplied with fresh water throughout the growing season. There is a packed dirt aisle of about 2 ft. between each 2 rows of logs. Usually in PanAn it rains enough in the winter that the straw mats are wet, and the humidity high in the growth house.



Mushroom logs

The fruiting bodies begin to appear in 2-3 weeks after being placed in the growing house. They harvest the mushrooms from the upright logs about every two days for about a month, by which time the nutrients are about shot, and there is a lot of algal growth evident along with a few contaminants of other fungi such as *Pleurotus*, *Poria*, *Ganoderma*, etc. and other species that are all grown in separate houses.

After harvesting is completed, the whole area is allowed to dry out, the wires are all removed, coiled, washed and dried for use the next year. The straw mats are allowed to fall onto the spent logs. They burn the entire production house, a practice which they say keeps the rate of infestation of the desired mushrooms with other fungi, including some parasites of *Lentinus*, at a rather low level.

There is always lots of straw available in the rice fields, and they start over with new construction for the

(cont. on pg. 9)

Lyophyllum Decastes (Fried Chicken Mushroom)



Photo by Michael Wood

[http://www.mykoweb.com/CAF/photos/Lyophyllum_decastes\(mgw-01\).jpg](http://www.mykoweb.com/CAF/photos/Lyophyllum_decastes(mgw-01).jpg)

When I first ate *Lyophyllum Decastes* I was unimpressed. It didn't taste like fried chicken or most mushrooms. In fact it didn't taste like much of anything at all especially when I combined it with more flavorful mushrooms. Since then I've changed my opinion of it for I learned that what it's cooked with is the secret of its tastiness.

I recently mastered this secret when I found it in huge abundance growing in a large grassy area where many old houses had been torn down a decade earlier. It was sharing this habitat with several other species including Shaggy manes in abundance many *Coprinus atrimentarius* and *Psathyrella velutina*. I made a big pot of all natural spaghetti sauce with lots of shaggy manes and decastes. The shaggy manes gave the sauce their unique mushroom flavor, but they cooked almost to nothing. The decastes on the other hand retained a wonderful juicy firmness even though it was hard to tell if they added flavor. They certainly didn't detract any from the flavor and their texture was a definite plus. I shared the spaghetti with friends who gave it a thumbs up.

A few days later later I made chili, and I still had lots of *decastes* left to get rid of, but I didn't have a lot of meat for the chili. I figured *decastes* texture would add substance to the chili and their lack of mushroom flavor wouldn't detract from it the way a more mushroomy mushroom would have. I was pleasantly surprised. The lightly flavored mushroom contrasted heavily with the chili powder and tomato causing the flavor of the *decastes* to stand out with a hint of nuttiness. Just as a light object stands out against a dark background, these mushrooms stand out against strong dark flavors such as garlic and tomato sauce or slow-cooked stew. Plus the more overcooked the stew or chili is the more perfect the *decastes* texture becomes. Contrast is its secret.

Just as *decastes* hides its flavor with anonymity it also has an anonymous appearance. It's a simple and substantial mushroom usually growing in clumps with a flesh-to-tan-to-cream colored cap and white gills with a solid fibrous stem. There's nothing to easily distinguish it from several *Clitocybe* and *Tricholoma* species including poisonous *T. pardinum* and *C. dilitata* which also grow in clumps. So how do I know I have *decastes*? Its the totality of its features, all of which are pleasant. The smell, taste and soapy texture all are fresh and pleasant. The fleshlike colors of the cap are reminiscent of chicken meat. Whereas *dilitata* and *pardinum* are more whitish-greyish and unwholesome looking and smelling. *C. dilitata* is probably the most easily confused with *decastes*,

but I only saw *dilitata* when I went out West. I didn't have to look at it long to realize it wasn't anything too good. Still, *decastes* grows with such variability that sometimes I struggle to identify. One recent time I found it somewhat waterlogged and not growing in clumps. I never was quite certain enough to try eating it.

Decastes is a popular mushroom around the world especially in China and Japan. Researchers in those countries have found that it does also have a variety of healthful effects including anti-diabetic, blood pressure reduction, anti-tumor, and anti-radiation effect. In Asia it is sold in different medicinal extracts. In rare cases some of these extracts have produced Hepatotoxicity or liver poisoning. It is unclear if *decastes* is the real culprit or another ingredient. This should not affect eating the mushrooms themselves but there have also been reports of some people experiencing severe gastrointestinal upset. I and others I fed these to never had a problem but good advice is to go easy when eating. Of course that's good advice for any mushroom.

Japanese researchers have also found *decastes* effective in bioremediation, a new field of using fungi and other natural agents to clean up toxic environments. Indeed this hard to identify mushroom with nondescript gets more and more interesting the more we learn about it. An excellent web site with much more information about *decastes* is at BC Mushrooms: http://bcmushrooms.forrex.org/ntfp/pages/lyophydecas/lyophydecas_syn.html 

PSMC Minutes of Annual Meeting

October 4, 2008

Brown's Woods, Des Moines IA

President Dave Layton convened the annual club meeting during the lunch break after a morning of foraging in the woods.

In attendance were Dr. Lois Tiffany, Dave Layton, Roger Heidt, Glen Schwartz, Dean Abel, Rosanne and Kevin Healy, Tom and Erma Keho, Jean Day, Minette and son Austin Carlson, Karen Cornelius, Carol Hays, Mark Leoschke, Dave McDowell, Harlan and son Max Ratcliff, Mike Whye, Melinda Witherow and Jay Bierstedt. Although not all of these people are club members, it was determined that we had a quorum to do business.

Secretary Dean Abel reported that he has tried to keep members informed by email of club activities. Glen Schwartz has been diligent about posting the information on the club website.

Treasurer Roger Heidt reported that we have about \$750 in our treasury. He will mail a detailed accounting of club finances to anyone interested. He has paid PSMC annual dues to the North American Mycological Association, an umbrella organization of mushroom clubs nationwide.

Glen Schwartz reported for the Web Committee. He wants to post more pictures of fungi on our website at <http://www.geocities.com/iowamushroom/> and he urged members to submit their photos. A consideration of possible improvements and additions followed. Glen will look into other possibilities for hosting the club home page but he feels comfortable with our current status on Yahoo. He also asked people to consider making the PSMC website their homepage and to encourage other sites to link with ours in order to move our club site to the front of the class when people search for Iowa mushrooms on the Internet.

Dave Layton reported on the production of Symbiosis the club newsletter. Electronic publication as an email attachment is working fine and only a handful of members require a hard copy mailed through the post office thus our expenses are minimal. He emphasized that a valuable contribution of the website is the publication of species lists from our forays. Rosanne Healy stressed the importance of these records. Dean apologized for not keeping up-to-date concerning the submission of this information and promised to do better. Mark Leoschke suggested that we send the newsletter to the Iowa Historical Society. Members approved.

Dave presented a slate of candidates for officers for 2009. Elected were: President Dave Layton, VP Glen Schwartz, Treasurer Roger Heidt, Secretary Dean Abel, and Board-Member-At-Large Marty Augustine. Rosanne did not seek reelection to the board. She is now seeking her PHD at the University of Minnesota. Dave thanked Rosanne for her service on the board and wished her well in her studies at Minnesota.

A short discussion concerning dues revolved around three points: (1) lowering dues in the light of our healthy treasury; (2) establishing a tier of memberships depending on the services provided like receiving a hard copy of the newsletter; or (3) keeping them the same and building up the bank account anticipating future expenses like sponsoring speakers or events. A majority voted for the third option so dues will remain at \$15 a household for 2009.

The meeting was adjourned and we turned our attention to the baskets of mushrooms that had been collected that morning.

Submitted by Dean Abel

Favorite Chinese Mushrooms and their American Counterparts

Genus & Species	Asian common name/s	Local common name/s or nearest local species	Edibility and medicinal characteristics
<i>Agaricus brunnescens</i>	Shuang Bao Mp Gu	Brown Meadow mushroom	general purpose food anti-carcinogenic
<i>Auricularia auricula</i>	MuEr	Dark Ear	Soup stock, blood, lungs, regularity
<i>Flammulina velutipes</i>	Dong Gu, Enotake	Velvet Stem	General food use, Sarcoma, immunoactive
<i>Grifola frondosa</i>	Maitake	Hen of the Woods	Fried, stewed Many medicinal uses
<i>Lyophyllum decastes</i>	Unknown	Fried Chicken Mushroom	Stews, Anti-tumor, diabetes, immune boost
<i>Lentinus edodes</i>	Xiang Gu, Shiitake	<i>Lentinus lepideus</i> Train Wrecker	Chinese favorite Many medicinal uses
<i>Pleurotus ostreatus</i>	Che Er	Oyster Mushroom	General purpose aches, anti-tumor
<i>Poria cocos</i>	Fu Ling	Indian Bread, Tuckahoe	Widespread medicinal uses
<i>Tremella fuciformis</i>	Bai Mu Er Ying Er	White ear	Soup stock, many medicinal uses
<i>Volvariella volvacea</i>	Caogu (Straw Mushroom)	<i>Volvariella Bombycina</i>	With mixed vegetables and soups, not medicinal

Thoughts...

(cont. from cover)

language textbooks, so my mycological work both here and in China has been put on the back burner of necessity. I knew when I made the commitment to do editing and writing for the English textbooks in China, that my mycological work would have to take second place. I don't regret the decision, but I do wish sometimes that I could have done both, though that was and is unrealistic! Like any technical area, one forgets rapidly when forced to lay something aside for several years, and though I was able to work with the co-authors to complete the 2nd edition of our *Mushrooms ...of the Midcontinental US*, I realize how much I have forgotten, and how much I've missed by not being in the field enough. 

Mushroom Production

(cont. from pg. 6)

mushroom growing house each year. Often there are vegetable fields interspersed between the growth houses, but the real income for the community comes from the mushrooms which are shipped throughout China and even to Japan and Korea where there is not enough production to meet demand.

As you can see in the processing buildings, everything is clean and the workers themselves are all in white cotton uniforms and wearing plastic shoe covers to reduce contamination of the mushrooms. 



Harvested Mushrooms



Canning preparations

Dave Layton, President
Prairie States Mushroom Club
542 9th Ave. S.
Clinton, IA 52732

PSMC Web Site:
[http://www.geocities.com/
iowamushroom/](http://www.geocities.com/iowamushroom/)



The name “*Symbiosis*” and contents of the newsletter “*Symbiosis*, The Newsletter of the Prairie States Mushroom Club (PSMC)” are the sole property of the PSMC and can not be reproduced without written permission of the PSMC Board of Directors.

PSMC 2008 Final Foray Report

from PSMC Website

Our final club foray of 2008 ended with a bang! There were over 20 participants at Browns Woods, October 4, 2008, in Des Moines. The weather was absolutely perfect, with sunny skies and pleasant temperatures. Rosanne agreed to examine a rare white *Grifola* (brought to the foray by Glen) to see if it really is the same as the more common gray or brown *Grifola frondosa*.



On the foray, several people found “Hen-of-the-woods” (*Grifola frondosa*), “honey mushrooms”

(*Armillariella Sp.*), and the beautiful *Hygrophorus subsalmonius*. After the foray, we gathered to examine our finds, about 50 species total. Several people could be heard asking...Dean, what was the name of this mushroom again?

After lunch, we had our annual meeting. Rosanne resigned her post as at-large board member due to her workload studying for her doctorate. Marty Augustine agreed to take her place. All other officers were re-elected for 2009.



Studying the finds



Clitopilus abortivum with *Armillariella mellea*



Black Trumpets

Finally, a foray that lived up to expectations. We found *Amanita muscaria*, *Lactarius chelidonium*, *Lactarius indigo*, black trumpets, and more *Armillariella* (honey) mushrooms than imaginable. After the foray, Dean Abel demonstrated various microscope techniques used to identify mushroom species.

Sunday, Sept
21, 10:00 AM
Wickiup Hill
Natural Area,
Linn County